Helen DeVos children's hospital

OF SPECTRUM HEALTH

Implementing Safety and High Reliability in Infection Prevention

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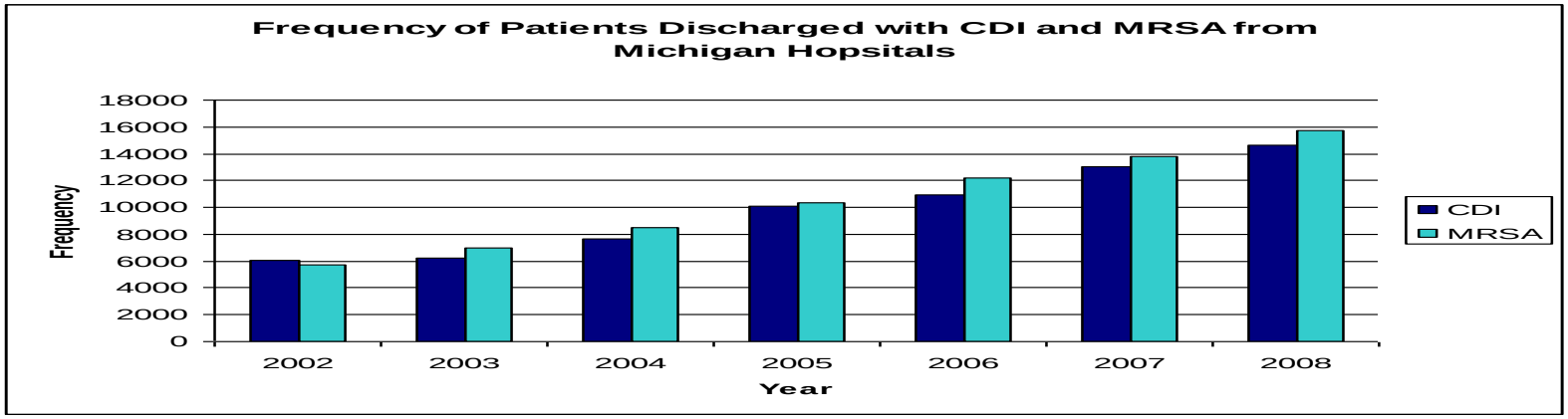
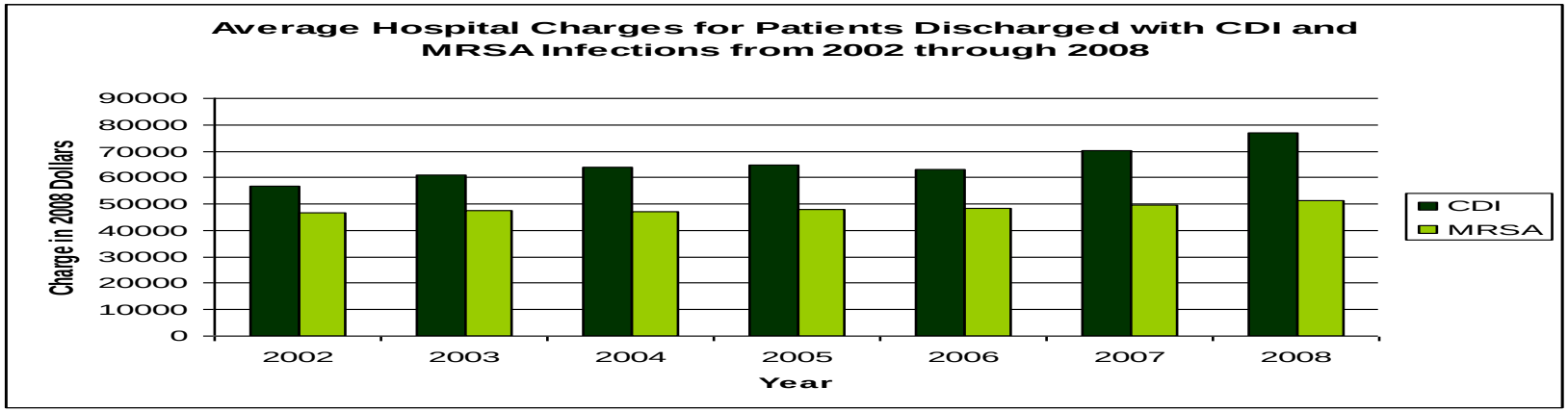
Objectives

1. Describe the unique healthcare challenges to becoming a highly reliable organization
2. List behaviors that promote a culture of safety.

Why are we here? Frequency & Cost





*Data courtesy of Kerrie VerLee MPH

Start with a Safety Story

- Natalie RN- Peds critical care
- Pt transition to acute care unit; developed diarrhea
- Next day – C diff PCR positive

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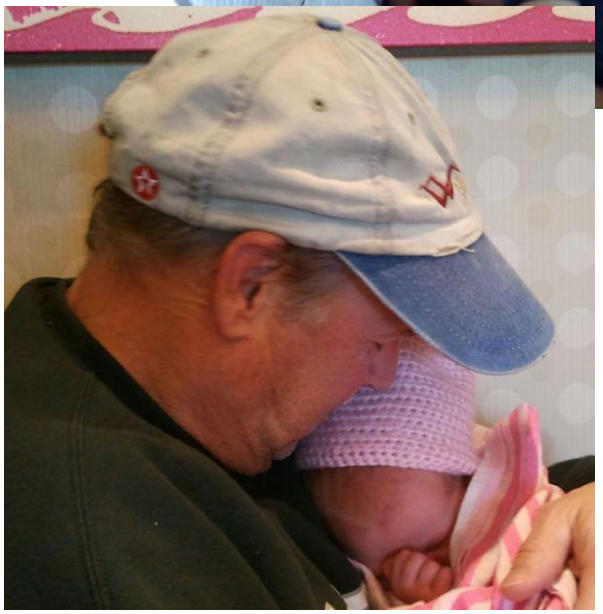
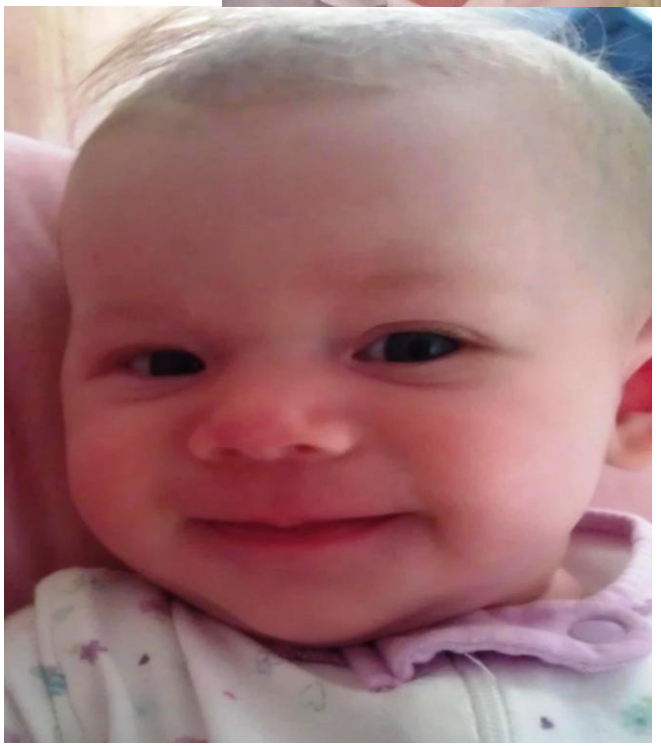
Michelle's Motivation



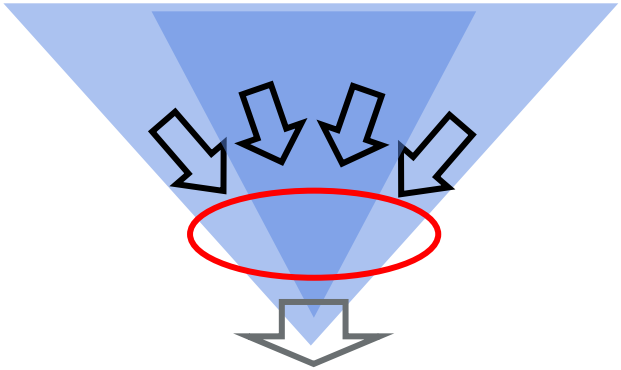


The A team

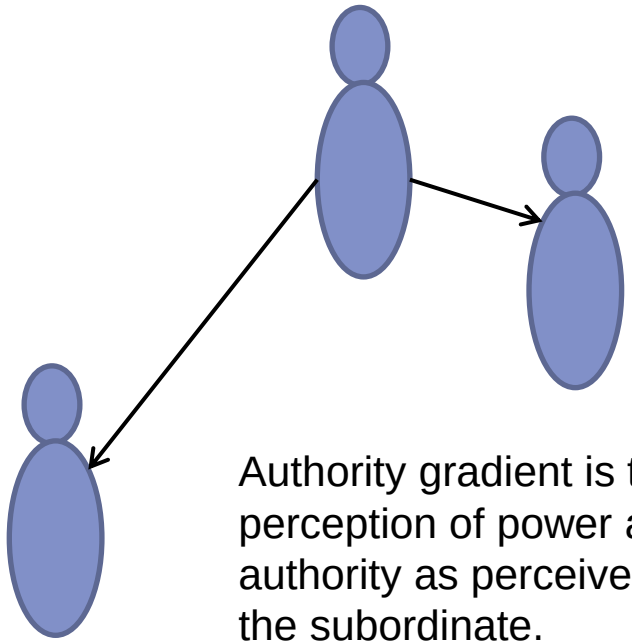
Collaboration

- Nursing- isolation practices; advocacy; patient education
- Lab- appropriate specimens; timely notification
- Environmental services- product selection; technique; advocacy
- Pharmacy- antimicrobial stewardship
- Providers- antimicrobial stewardship; pt education; Hand hygiene
- Infection Prevention- isolation; hand hygiene; antimicrobial stewardship; surveillance (awareness)

Challenges in Health care



Intimidation

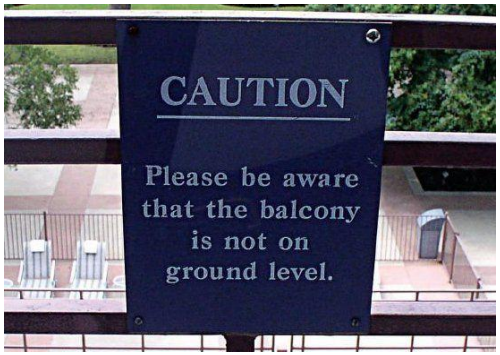


Authority gradient is the perception of power and authority as perceived by the subordinate.

The work-around

Normalized Deviance

$$\text{Non-Compliance} = \frac{\text{Perceived Burden}}{\text{Perceived Risk} + \text{Coworker Coaching}}$$



Normalized Deviance

Non-Compliance with Isolation / PPE/cleaning=

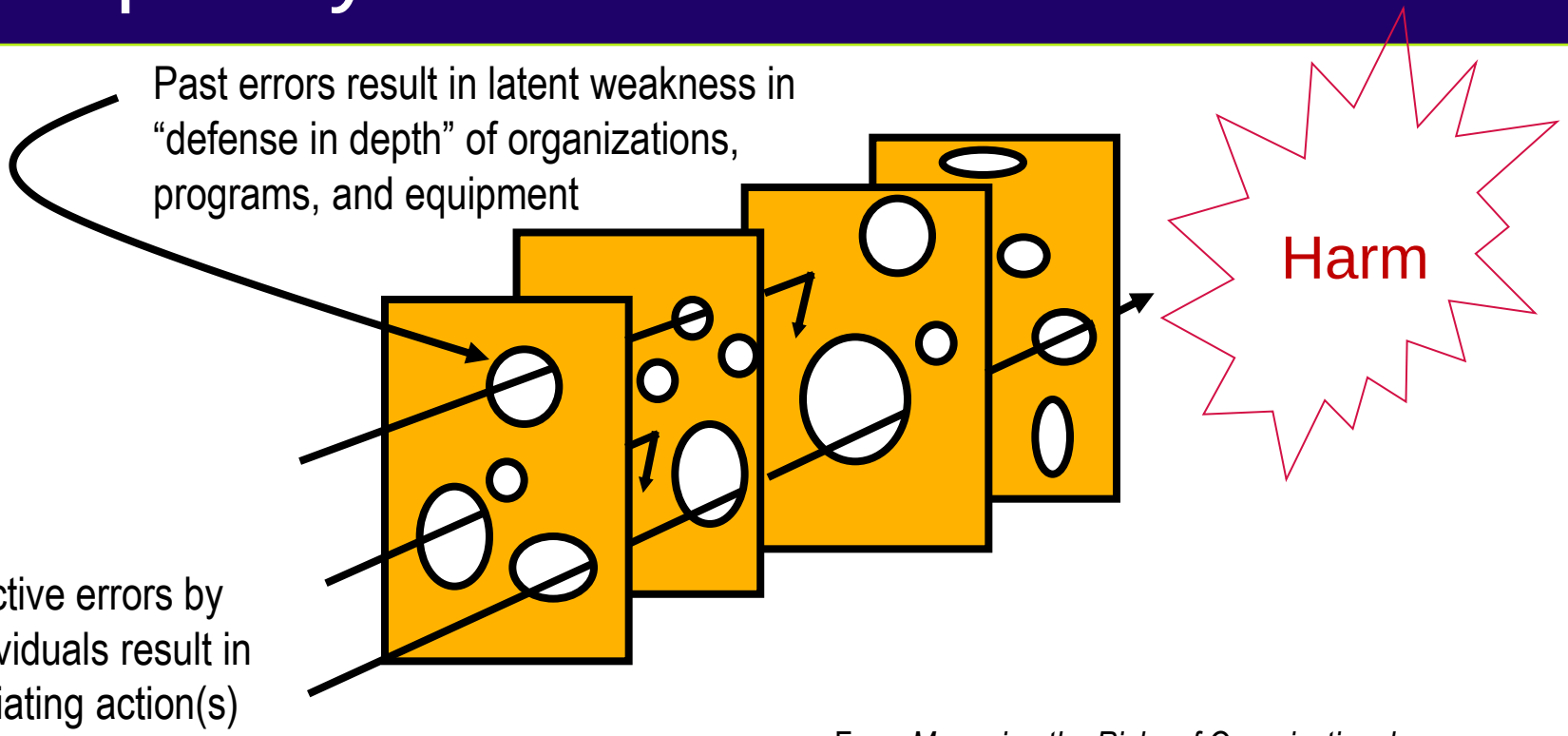
Perceived Burden- time; cost, satisfaction

Perceived Risk- colonization vs. infection

+

Coworker Coaching- "I never wear PPE" "I'm not gonna touch the pt" or not speaking up

Complexity of healthcare



From *Managing the Risks of Organizational Accidents*, James Reason (1997)

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The Silos

Challenge for change agents

I haven't got the slightest idea how to change people,

but I keep a long list of prospective candidates, just

in case I should ever figure it out."

David Sedaris

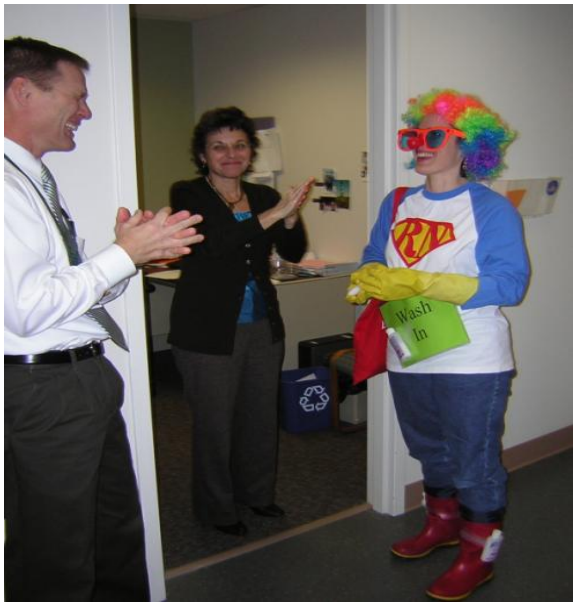
Promoting Safety

1. Leadership support
2. Transparency and reporting
3. Cause analysis methodology
4. Behaviors for error prevention
5. Practice Makes Perfect- Simulation and small tests of change
6. Developing High Reliability

Leadership support

"*Helen DeVos Children's Hospital will be the safest children's hospital in America.*"

-Dr. Robert Connors, President HDVCH 2007



- Formal Leaders:
  - Administrators
  - Managers/Supervisors
- Informal Leaders:
  - Influencers
  - Early adopters
  - Preceptors

Leadership Behaviors

- Negatives UP/ Positives DOWN
- 5:1 feedback
  - Verbal
  - Nonverbal
- Rounding to Influence
- High visibility
- Clear expectations
- Just culture- “the no blame game”

Transparency and Reporting

Spectrum Health

Hand Hygiene Compliance by Unit
March 1, 2007 - July 31, 2007

Unit	March 2007	April 2007	May 2007	June 2007	July 2007
6S		76.67%	53.33%	86.67%	86.67%
7C		32.50%	15.00%	93.55%	36.67%
7HC		75.00%			80.00%
7N		5.26%			16.67%
7S		30.00%	40.00%	26.67%	90.00%
8C		26.67%	20.00%	60.00%	31.03%
9C		50.00%	0.00%	85.00%	77.78%
ACC	58.00%	49.00%	53.85%		80.00%
ACE			75.86%	90.00%	74.07%
BARIATRICS					80.00%
BURN CENTER		100.00%	80.00%		83.33%
CT					75.00%
DIAGNOSTIC RAD					0.00%
ED				73.53%	
ENDO				90.00%	96.67%
INTERVENTIONAL RAD					50.00%
MRI					91.67%
NUC MED					100.00%
PATIENT TRANSPORT					66.67%
ULTRASOUND					25.00%

Percentages	No data reported	>/= 80% Completed or compliant with target	79% - 60% Developing program or progressing toward target	</= 59% Behind goal - needs assistance

Transparency- Raising the Bar

Clinical Outcome Report
Pediatric Hand Hygiene

	March 2011	April 2011	May 2011	June 2011	July 2011	August 2011	September 2011	October 2011	November 2011	December 2011	January 2012	February 2012	Spectrum Health Target
HDVCH	96% (429/447)	95% (379/399)	95% (940/986)	97% (798/822)	95% (898/949)	95% (811/855)	96% (916/658)	97% (1041/1068)	99% (514/520)	98% (466/475)	99% (639/645)	98% (752/765)	100%
20000 - Neonatal	99% (136/137)	98% (98/100)	100% (120/120)	98% (98/100)	99% (136/137)	98% (49/50)	97% (142/146)	98% (206/210)	99% (179/180)	99% (170/171)	99% (159/160)	99% (179/180)	100%
20030 - Med/Surg 6CH	92% (36/39)	95% (38/40)	96% (47/49)	100% (36/36)	100% (20/20)	88% (30/34)	100% (18/18)	97% (29/30)	100% (20/20)	100% (30/30)	100% (45/45)	100% (26/26)	100%
20040 - Med/Surg 7CH	100% (44/44)	98% (39/40)	99% (79/80)	93% (28/30)	93% (28/30)	98% (39/40)	100% (39/39)	100% (58/58)	97% (39/40)	100% (30/30)	97% (36/37)	100% (18/18)	100%
20050 - PICU 8CH	96% (48/50)		100% (80/80)	100% (70/70)	99% (99/100)	100% (30/30)	100% (30/30)	100% (30/30)	100% (30/30)	90% (36/40)	100% (30/30)	100% (60/60)	100%
20060 - Med/Surg 9CH	100% (28/28)	100% (33/33)	98% (41/42)	97% (124/128)	97% (30/31)	97% (58/60)	100% (33/33)	100% (34/34)	100% (30/30)	97% (33/34)	100% (35/35)	100% (43/43)	100%
20120 - Sedation	80% (8/10)	90% (18/20)	100% (20/20)	98% (49/50)	100% (20/20)	95% (57/60)	100% (30/30)	100% (10/10)	100% (20/20)	100% (10/10)	90% (9/10)	100% (20/20)	100%
21300 - ED	93% (129/139)	92% (134/146)	93% (525/565)	96% (363/378)	93% (532/571)	95% (533/561)	94% (606/642)	97% (655/676)	98% (176/180)	98% (137/140)	99% (305/308)	97% (376/388)	100%
21400 - Peri-Op			90% (18/20)	100% (30/30)	83% (33/40)	75% (15/20)	90% (18/20)	95% (19/20)	100% (20/20)	100% (20/20)	100% (20/20)	100% (20/20)	100%

Common Cause Analysis

Aggregates acts and causes from multiple events to identify the common cause

While a root cause event is single event driven; common cause can be time or trend directed

Allows the organization to determine a broader look at system vulnerabilities (vs. one event with RCA)

Less resource intensive than RCA (uses 10% of resources)

Cause Analysis Teams

- Possible on every unit or dept
- Front line staff (peer coaching)
  - facilitate
  - develop interventions
  - monitor
- Leadership support
  - Time
  - resources

CA- line listing

Name:
MRN:
Date of:

Date	Time	Event	Action

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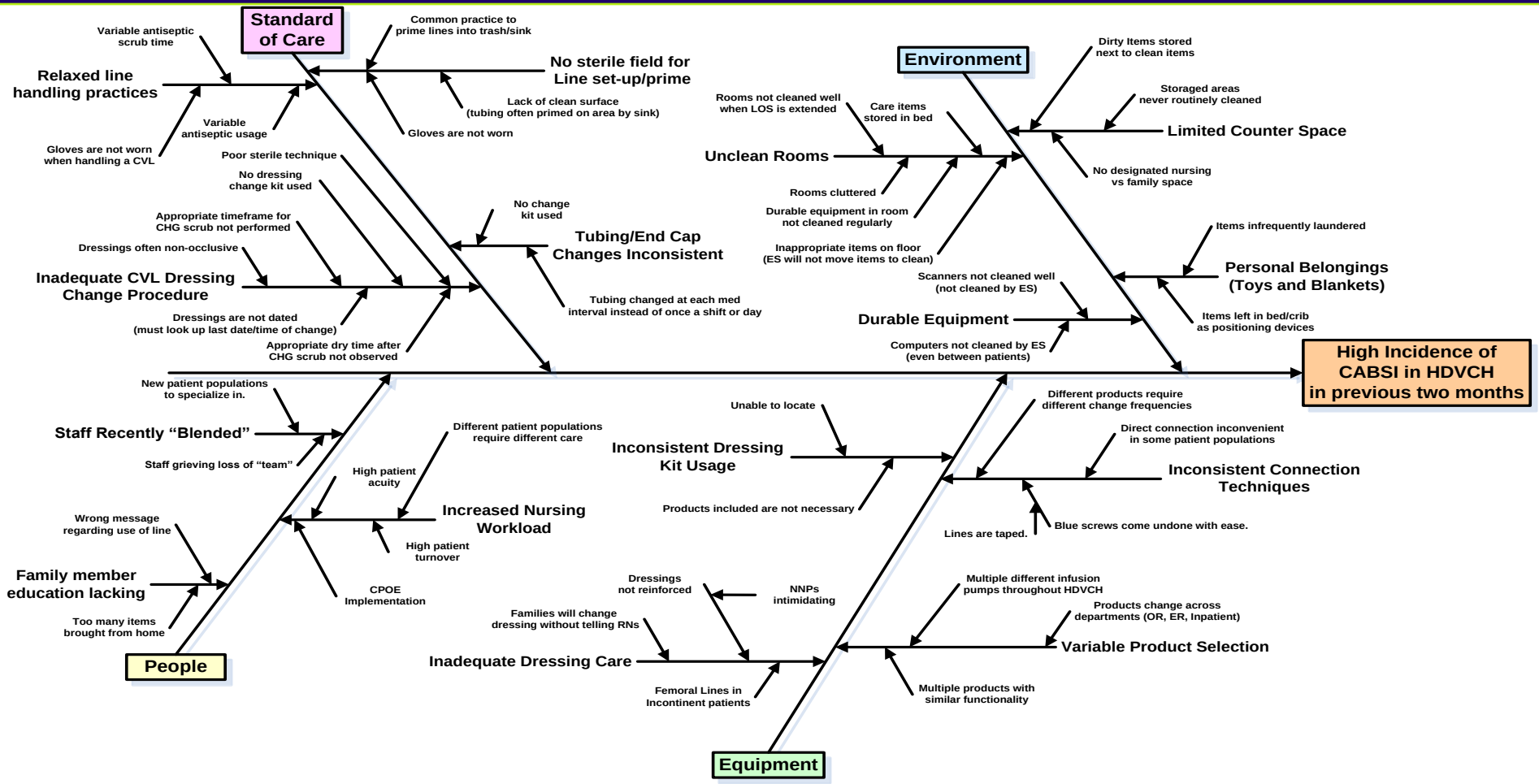
HDVCH CABSI Fishbone



Effectiveness of Prevention Strategies

Most Effective

Least Effective

Effectiveness for Preventive Actions

1. Design process for minimum error – “mistake-proof” it.
2. Control errors with active safety devices.
3. Provide warning devices for manual action.
4. Use procedures for reduction of error and control.
5. Use administrative controls for reduction of error.
6. Rely on knowledge and skill of staff.

Behaviors for Error Prevention

Communication

- Patient handoffs
- Elevating concerns
- Repeat backs
- Clarifying questions
- Phonetic/numeric clarifications
- ARCC

Critical thinking

Teamwork

Pay attention to detail

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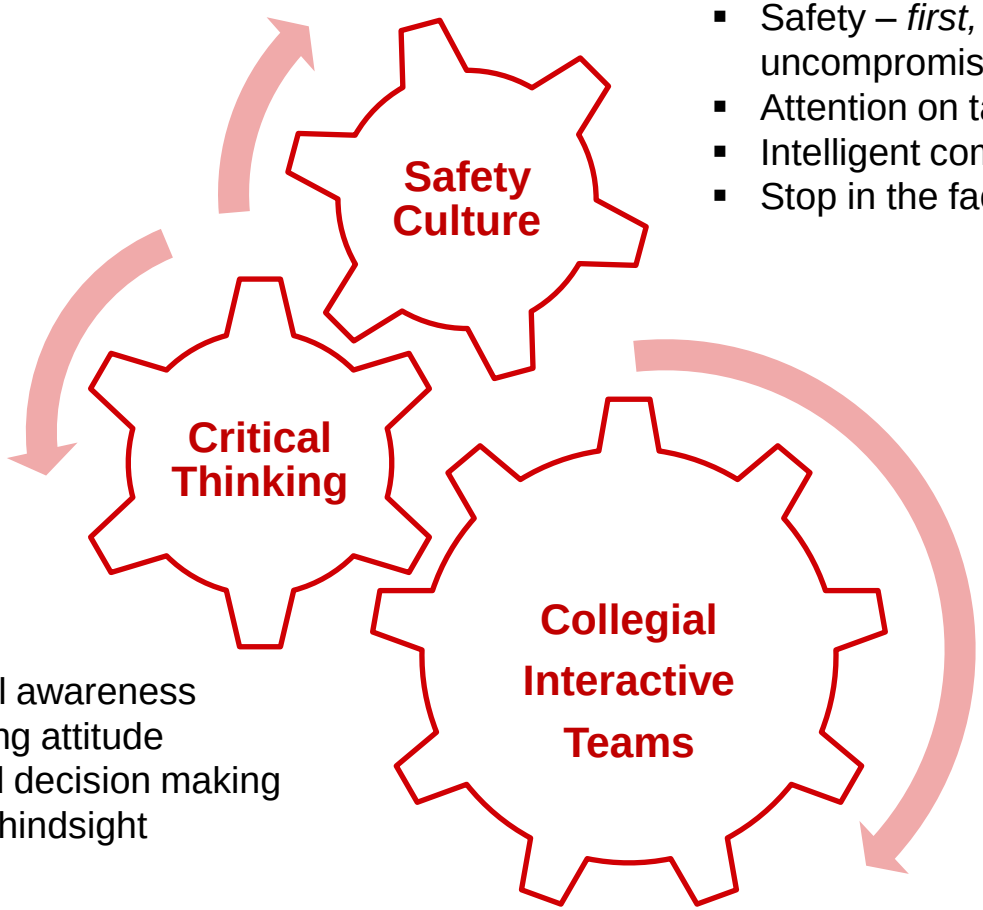
Simulation- Practice Makes Perfect

Small Test of Change-

Front Line facilitation-

- Pilot process changes
- Provide real time feedback and course correction
- PDSA

Making Reliability a Reality



- Safety – *first, do no harm* – as our uncompromising value
- Attention on task
- Intelligent compliance with expectations
- Stop in the face of uncertainty

- Situational awareness
- Questioning attitude
- Structured decision making
- Proactive hindsight

- Gradient leveling interactions
- Clear communications
- Effective handoffs
- Cross monitoring using peer checking and peer coaching
- Safety critical words
- Inquiry, advocacy, and assertion (ARCC)

High Reliability Principles- Weick and Sutcliffe, 2007

1. **Preoccupation with Failure**
2. **Sensitivity to Operations**
3. **Commitment to Resilience**
4. **Reluctance to Over Simplify**
5. **Deference to Expertise**

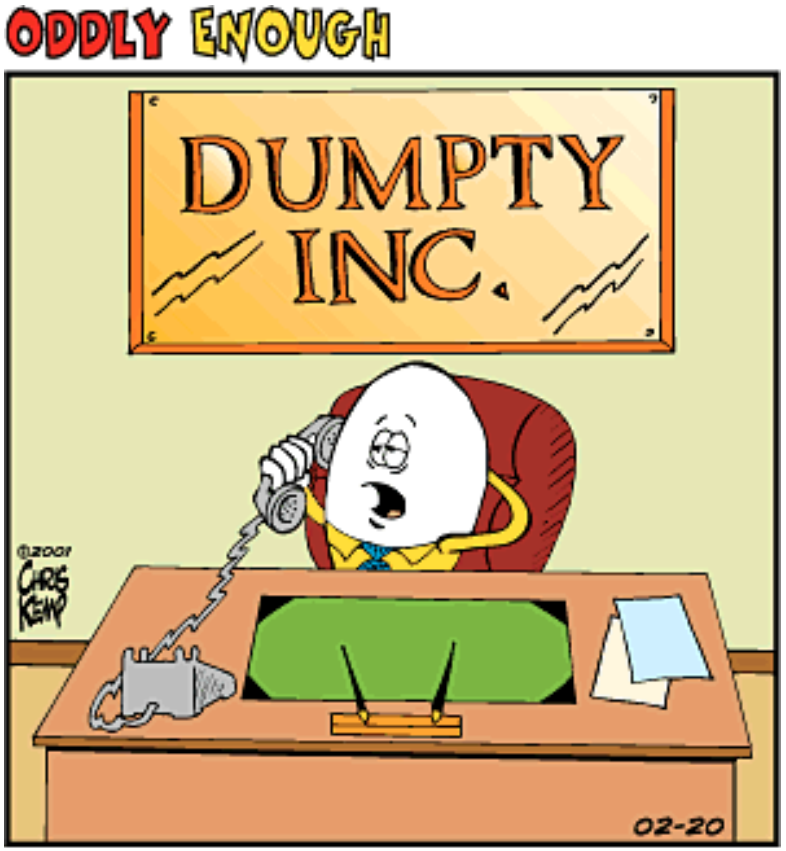
Preoccupation with failure

- **Relentless hunt for lapses and incongruities**
- Regard even the “inconsequential” as symptom something is wrong
- Wary of complacency
- Safety is a lifestyle not a journey- no end

Sensitivity to Operations

- **Keen awareness about what is going on**
- Pay attention to front line
- Situational awareness
- How can system fail and strategies for recovery

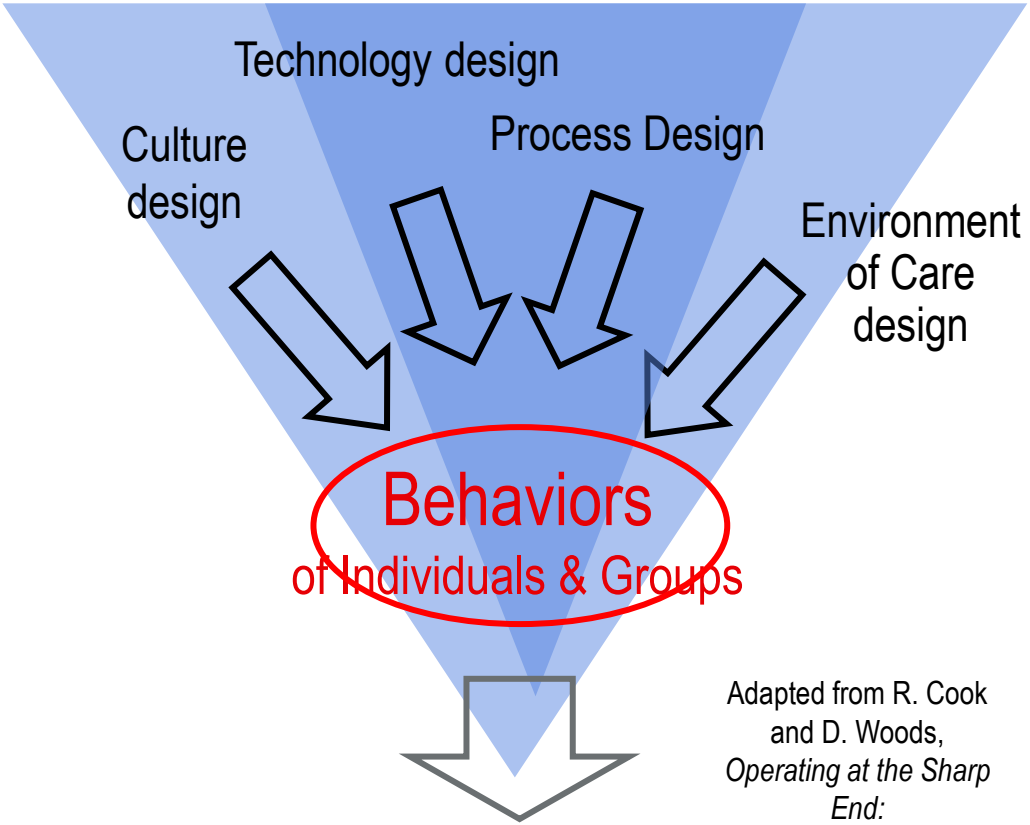
Commitment to Resilience



"SPRING AND SUMMER WERE RATHER SLOW BUT I HAVE A FEELING I'M IN FOR A BIG FALL."

- **Ability to absorb strain and function in the face of adversity**
- Expect errors
- Detect quickly
- Bounce back and respond from unforeseen events

Reluctance to Oversimplify



Adapted from R. Cook and D. Woods, *Operating at the Sharp End: The Complexity of Human Error* (1994)

- **Ability to pick up weak signals of potential trouble and interpret from them any significant meaning**
- "It can't happen here- we're different"
- DCI

Deference to Expertise

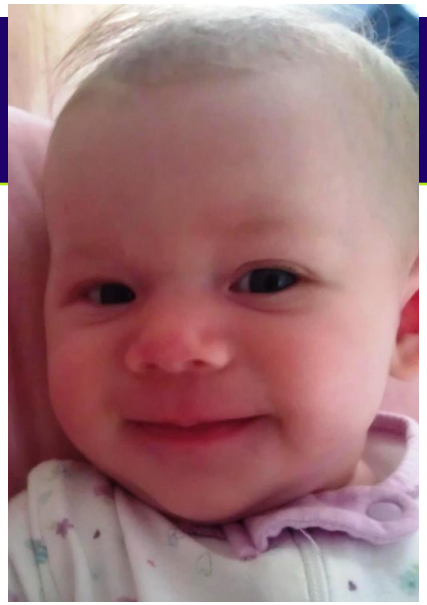
- **Authority migrates to the people with the expertise to deal with the situation quickly.**
- What is happening at the front line?
- Are expectations realistic?
- Are we encouraging a work around?
- Do we trust front line staff to make real time decisions?

How can you promote High Reliability

1. **Create a safe environment**
   - How do you listen?
   - Ask peers for help with safety behaviors
   - Create safety buddies to support ARCC

2. **Are you a good Wingman?**
   - Peer Coaching and mentoring
   - Hand Hygiene and isolation compliance
   - Say thank you when reminded
   - Accountability for each other and to our patients

High Reliability in Use



Develop unit based Reliability mentors (QSO)

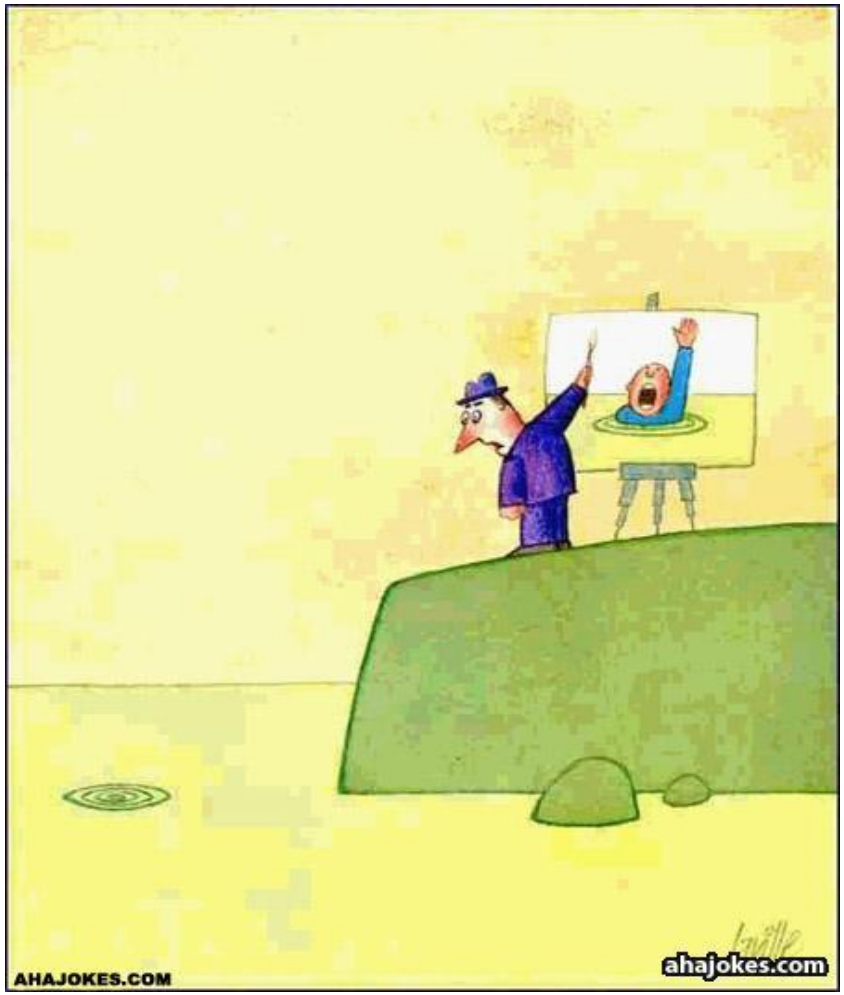
for sensitivity to your operations

- Train for cause analysis
- Perform cause analysis for events (including HA MDRO; CLABSI, VAP, CAUTI, falls, pressure sores, etc)

Defer to Experts- front line staff identify problems, develop solutions, apply interventions, measure compliance

Communicate metrics; action plans; interventions often to keep resilient

Questions? Contact Information



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